

**Albrecht AE 502**

**2 m Handheld Amateur Radio Transceiver**

## SPECIFICATIONS

### General

Transmitter ..... Crystal controlled PLL synthesizer, frequency modulation  
Receiver ..... Crystal controlled double conversion, superheterodyne system  
Communicating frequencies range... 144.00-145.995MHz (5KHz, 10KHz, 15KHz, 20KHz, 12.5KHz, 25KHz step)  
Operating voltage ..... 6~14V DC (negative ground)  
Temperature and humidity range ..... -22°F ~ +140°F (-30°C ~ +60°C) at 10% ~ 90% humidity  
Transmitter/receiver switching ..... Electrical

### Standard Test Conditions

Power source ..... 13.2 V DC  
ANT load impedance ..... 50 ohms, non-inductive  
Audio output load impedance ..... 16 ohms, non-inductive  
Modulation ..... 3KHz DEV  
Reference audio output power ..... 0.25 W  
Test channel ..... 145.500 CH  
Test temperature and humidity range ..... -22°F ~ +73°F (17°C ~ 23°C) at 40% ~ 70% humidity

### Transmitter

Description	Unit	Normal	Limit
Frequency tolerance .....	%	±0.0005	±0.001
RF power output			
7.2V DC.....	W	2.2	2.0
10.8V DC.....	W	3.5	3.0
12V DC.....	W	4.0	3.5
13.8V DC.....	W	4.5	4.0
Maximum deviation.....	KHz	5	±1
Microphone sensitivity .....	mV	6	10
Audio frequency response (1 kHz 0 dB reference)			
450Hz.....	dB	+6/oct	+1/-3
2500Hz .....	dB	+6/oct	+6/0ct
Hum and noise.....	dB	42	40
Spurious emission .....	dB	70	60
CTCSS Tone deviation.....	KHz	0.7	0.5~1KHz
Current drain			
7.2V DC.....	A	0.8	0.9
10.8V DC.....	A	0.9	1
12V DC.....	A	1.0	1.1
13.8V DC.....	A	1.05	1.1
Lower power.....	A	0.46	0.6

## Albrecht AE 502

### Receiver

#### Intermediate Frequency

1st IF = 21.4MHz

2nd IF = 455 kHz

Description	Unit	Normal	Limit
Maximum sensitivity 12dB SINAD.....	dB	-14	-12
Squelch sensitivity			
Threshold .....	dB	-20	-14
Tight.....	dB	-10	±6
Spurious Response Attenuation.....	dB	70	60
Intermodulation Attenuation.....	dB	60	54
Adjacent Channel Rejection(25KHz).....	dB	65	60
Hum and Noise.....	dB	50	40
Distortion at 1 mV input, 3KHz modulation .....	%	3	10
Audio output power at 10% THD			
7.2V DC .....	W	0.3	0.25
10.8V DC.....	W	0.5	0.4
12V DC.....	W	1	0.7
Audio fidelity			
450 Hz.....	dB	-3	-3±6
2500 Hz.....	dB	-3	-3±6
Image rejection ratio (1st IF/2nd IF) .....	dB	65	60
IF rejection ratio (1st IF/2nd IF) .....	dB	65	60
S meter sensitivity at "9" .....	dB	10	±6
Current drain			
Stand-by without Power Save .....	mA	45	50
Stand-by Power Save.....	mA	30	35
Current drain at maximum signal .....	mA	200	250

### Other Items

Fuse .....	DC 2 Amp/ 32 Volts
Dimension (HxWxD) .....	2 x 6 <sup>1</sup> / <sub>10</sub> x 7 <sup>2</sup> / <sub>3</sub> inches ( 65 X 37 X 167 mm)
Weight .....	400g(W/EMPTY BATT PACK)

Note: Nominal specs represent the design specs. All units should be able to approximate these some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; in no case should a unit fail to meet limit specs.

# **Albrecht AE 502 Amateur Transceiver** **Frequenzbereichs-Optionen**

PLEASE FIND THE MODIFICATION METHODE OF CHANGE MODE  
 AS FOLLOW. (IF YOU CHANGE BAND, THEN MUST RESUME RESET)

## 1. BAND MODE

MODE	SW 1	SW 2	DISCRPTION
1	L	L	RX / TX FULL BAND: 136.00-173.9975MHz
2	H	L	RX: 136.00-173.9975MHz, TX: 144.00-147.9975MHz
3	L	H	RX / TX: 144.00-145.9975MHz
4	H	H	RX: 136.00-173.9975MHz, TX: 144.00-145.9975MHz

NOTE : H - SHORT  
 L - OPEN

## 2. RESET OF CPU

- TURN ON POWER SWITCH.
- KEEP FUNCTION SWITCH PRESSED (PRESS CONTINUOUSLY)
- TURN OFF POWER SWITCH AND THEN ON AGAIN.
- RELEASE FUNCTION SWITCH.

## 3. PLEASE FIND A COPY OF FRONT PCB LAYOUT AND FIG.

